F SAMPLE ANALYSIS TOOLS

This Appendix is meant to help States evaluate whether to develop a new system or enhance an existing system. It is important to view the development of an information system as dynamic, not static, and approach the analysis of alternatives by taking into consideration all of the possible options as the technology environment changes.

Cost considerations affecting the decision to develop a new system or enhance an existing system are presented. State agencies can use the sample questionnaires included in this appendix to streamline their development/enhancement projects. The first survey vehicle is focused on requirements gathering and can be used in design sessions or user interviews. The second questionnaire highlights key issues in selecting a system for transfer.

F.1 COST CONSIDERATIONS

There are a number of factors agencies should consider when deciding whether to develop a new WIC information system or enhance an existing system. The primary factors include the costs to develop (enhance) and maintain the software, hardware costs (including lease or buy decisions), development lead time, development methodology, risk, ease of maintenance, flexibility to adapt to change, and system responsiveness. For most agencies, cost will be one of the key factors in determining whether to upgrade or replace a WIC information system, and in selecting the specific features of the system.

Each State should consider the costs and benefits of developing a system in-house, contracting for vendor services, adapting a system from another state, or using commercially available software. State agencies should also consider the following options with regard to hardware costs, telecommunication costs, software costs, system enhancement costs, implementation costs, and facility-related costs.

Each State should also consider the development methodology that best fits its needs. This will have a high impact upon costs. These methodologies include full system upgrade or replacement, modular development by function,

framework methodologies, and phased development or replacement of front-end and back-end software.

F.1.1 HARDWARE COSTS

WIC agencies require automated support at the State, local, and clinic levels. To satisfy this requirement, an agency can implement a centralized system providing support through a telecommunications network. Alternatively, an agency can implement a distributed processing system with personal computers (PCs) and workstations at the local and clinic levels, with centralized processing to support State level operations and consolidate data across all levels.

The decision whether to implement a centralized or distributed configuration depends on a number of factors: the functions included in the system, scale of State WIC operations, current and projected availability of computing capacity, availability and expertise of State IT staff and the availability and cost of State funded telecommunications networks. In light of the decentralized nature of WIC operations; current cost of personal computers, minicomputers and mainframes; and the experience of several States that are now developing new WIC information systems, State WIC agencies should assess a PC-based (distributed) environment to determine if it meets that State's unique needs. Appendix G provides assistance in evaluating technical architecture alternatives.

F.1.2 TELECOMMUNICATION COSTS

These costs are directly related to the hardware decision. In a centralized environment, dedicated lines are required between the local offices and the main computing center. In a totally distributed environment, only periodic (daily) transmittals generally are required. Thus telecommunication costs would be significantly less in such a totally decentralized system with no ongoing on-line connection to the host. However, for systems (e.g., New Mexico) that use a modified distributed processing architecture combining both distributed processing and an on-line real time connection to the host, substantial savings in telecommunications costs may not be realized. The availability of a State government telecommunications network, and the extent to which local agencies have access to the network, will have a major influence on projected

telecommunications cost and the decision to use on-line real-time or a distributed platform.

Appendix D, in its discussion of technology considerations, provides some additional options for providing telecommunications. This appendix discusses wireless technology as well as Internet-based applications. States should consider all available options when choosing a telecommunications strategy.

F.1.3 SOFTWARE LIFE CYCLE COSTS

Agencies must consider several alternatives, including whether to build the system in-house or use a contractor, whether to modify an existing system or build a new one, and whether to purchase an existing system (packaged system) or build a custom system. Agencies are strongly encouraged to assess the use of existing software before initiating a custom development project. There are many similarities of program operations across State WIC programs, and the cost of modifying an existing system to meet unique program characteristics would likely be less costly than developing a fully customized system. States are also strongly encouraged to consider modifying program operations and business rules to take advantage of the capabilities of modern information technology. Although adopting programmatic changes will be challenging, the benefits realized may fully justify the effort.

Since the initial FRED was issued, a number of new WIC information systems have been developed. These systems incorporate new technologies that allow them to be far more flexible to change and customization. For example, modular design and use of code tables help achieve flexibility. In view of dwindling resources available for building information systems, FNS recommends that these systems be considered prior to embarking on a system development project. To help States evaluate the widening array of available systems, several other appendices are included. These appendices compare potential systems for transfer, assist with an evaluation of technical architecture alternatives, and provide sample questionnaires to use when assessing systems for transfer. (See Appendices E, F, and G.)

In addition, in deciding whether to use contractor services to build a new system or purchase an existing system, an important consideration is on-going maintenance and operations costs. Agencies should carefully assess (and contractually agree upon) software maintenance costs. Contractors often offer deep discounts to build the system or license use of their software, but charge a premium for enhancements and software maintenance. State agencies should consider the use of existing in-house or State Departmental IT resources to maintain and operate the system. Key issues in assessing the use of in-house IT resources include software expertise, available resources, and system capacity. It is important for an agency to consider the full system life-cycle cost when deciding how to implement its system.

F.1.4 SYSTEM IMPLEMENTATION COSTS

In any system, there are a number of key implementation strategy decisions that have major impacts on the total up front cost of the system. Among the particularly important issues are training, data conversion, phasing of implementation, and use of parallel operations.

For training, costs may vary significantly between on-site training of users at their offices versus training users centrally at a single site. The most cost-effective approach will depend on the number of users, their location within the State, and the availability of facilities and equipment for training at user sites and a potential central site. New technologies within the training arena should be considered when planning and estimating training costs. Appendix D, Technology Considerations discusses Computer Based Training and Distance Learning that could be employed to reduce training costs and increase staff flexibility.

Implementation phasing has a significant impact on cost, as well as the extent to which implementation risks can be minimized. The use of pilot and/or beta tests prior to implementation, and the associated costs of tuning the system to address their results, should be explicitly considered in the total cost of the system. Finally, the use of parallel operations (i.e., operating the old system in tandem with the new system for a period of time) helps reduce the implementation risks, but usually has a significant cost that should be explicitly considered before a

decision is made to conduct parallel operations. Of note, similar cost issues arise in electing to use the old system as a backup to the new system during the initial period of new system operations.

Data conversion from the existing system to the new system, whether it is manual or automated, can be a lengthy and costly phase of development. During the design phases an assessment of how difficult it will be to move the existing case records from one system to another must be undertaken. Major factors with cost impact include: the number of new elements being added to the data, whether or not the existing data is in a transferable database format, and time and staff costs for the caseworkers to update and perform data integrity checks on their caseloads.

F.1.5 FACILITY COSTS

The implementation of a new WIC information system must fully consider the cost of acquiring or modifying facilities to support system operations, especially at local agencies and clinic sites. A new WIC information system may be providing automated support at local agencies and clinic sites that currently have no computer facilities. Although computer terminals and PCs can function well in most normal office environments, it is essential to provide adequate electrical power, backup, telecommunications facilities, and security. Specific costs that agencies may incur in the implementation of a new WIC information system are electrical wiring upgrades, new telephone connections, new furniture, facility renovation to provide secure space, and the acquisition and installation of uninterruptible power supply (UPS) units. Other factors to be noted include the physical security of the building and the physical placement of devices in proximity to the workflow of the office.

There is no easy way to estimate the complete system cost. Much depends on the approach, scope of the system, hardware environment, and so on. It is suggested that in addition to a thorough bottom-up estimate, agencies contact other agencies that recently completed development projects to find out how much it cost them and the specifics of their system and development approach. All too often bottom-up estimates tend to underestimate the effort. With actual costs for similar projects, agencies can "double-check" their work.

If the decision to develop or enhance an automated system will require Federal financial support, agencies must prepare and submit an Advanced Planning Document (APD) to the FNS Regional Office. This can be done in a two-stage process, by first submitting a Planning APD to give the Regional Office staff notice that the Planning process is underway and obtaining specific funding for this phase. (Note: If specific funding for planning purposes is not being requested, a Planning APD does not need to be submitted. State agencies may notify their FNS Regional Office through a letter or other acceptable communications.) Later, when the full-scale development plans have been finalized, the agency will submit an Implementation APD to FNS. Beyond the obvious need to get FNS approval for WIC automation projects, the APD review and approval process typically results in improvements to the development plan and important clarifications of costs.

F.1.6 ALTERNATIVE PROPOSALS

In deciding whether to develop a new system or modify an existing system, agencies are urged to consider commercially available and public domain software products (packages) currently available. Several vendors purport to offer complete WIC information systems. It is not known whether they offer complete, integrated systems or specific modules only. Other commercially available software, such as generic accounting systems, appear to be inadequate to support WIC operations since they do not satisfy WIC-specific requirements. Certain PC software, however, such as database management software (e.g., Oracle, Sybase, Microsoft Access, FoxPro for Windows) and spreadsheet software (e.g., Lotus 1-2-3, or Excel) can be used to develop applications that satisfy certain WIC information system requirements. For example, low end database software can be used to maintain waiting lists, external agency contact lists, and other stand-alone data (i.e., data that is not used by other system functions). If a package is available which meets a substantial portion of the requirements, it may be in an agency's best interest to modify and enhance that system rather than undertaking a custom development effort.

F.2 INTERVIEW GUIDE

The objective of this guide is to help prepare for requirements gathering interviews and/or design sessions. This will greatly aid in the facilitation of

productive interview sessions. As these interviews are conducted, new requirements that are not addressed in this guide are encouraged.

Fundamentally, five general areas will be examined during these interviews prompted by these questions:

1) What requirements does your system have that are not in the current Functional Requirements Document for a Model WIC information system (FRED) including those requirements imposed by organizations that are not recognized or not adequately recognized in the current FRED?
2) What core requirements are not included in your current system?
3) What requirements would you like to see added that would improve your management, use, and service delivery?
4) What requirements that are currently imposed upon you need to be changed or eliminated to improve management, use, and service delivery?
5) Given the technology that is available today or soon will be, what requirements would you like to see added that could be supported by these technologies? In what ways might changing technologies cause changes in the delivery and management of WIC services? What previously unavailable functionality might now be available in a cost-effective manner through new technologies? What, if any, are the benefits and disruptions that might be associated with new technologies?

This guide is divided into two major sections corresponding to agency-level interviews:

1) Section 1 – Local WIC agency interviews. This section is focused on areas that are of importance at the local agency and WIC clinic level where the services are rendered. As such its primary objective is to examine the programmatic requirements at that level.
2) Section 2 – State WIC agency interviews. This section is focused on areas that are of importance at the WIC State level and levels that may be between the State level and the Local agency level.

F.3 LOCAL WIC AGENCY INTERVIEWS

The purpose of local WIC agency interviews is to meet with staff, and, if possible, participants, in the clinic. The objective of these interviews is to understand the improvements:

- Local agency and clinic staff would like to see in the WIC information system that would enable them to do a better job of providing service to participants, and
- Participants would like to enhance their use of the services provided.

The interviews are applicable to satellite/mobile/remote clinic operations, clinics in permanent locations not open during normal working hours every day of the work week as well as clinics in permanent locations open during the normal work week.

F.3.1 FUNCTIONAL REQUIREMENTS

The interviews focus on areas that may have been of particular difficulty in implementing an automated WIC information system or may have arisen because the automated WIC information system does not provide the capability.

F.3.1.1 Scheduling

1) How has your scheduling function made appointment processing easier? What do you like about your current appointment capabilities? What do you not like about your current appointment capabilities? What improvements to the current appointment capabilities, if any, would you suggest?
2) Does your system support a family/household group rather than just individual participant scheduling? Does this method support proper tracking and reporting of participant contacts and nutrition education on an individual participant basis? How?
3) Does your scheduling function allow for multiple types and schedules of appointments in the same clinic?
4) Does your scheduling function enable the scheduling of participants who are in your WIC state agency but are not assigned to a particular clinic? For example, can you schedule a participant who has called your clinic to transfer into your clinic from another clinic in your State agency? Does your scheduling function enable scheduling of participants to any WIC clinic in the local agency? For example, can you schedule a participant who has called a central phone number for an appointment in the appropriate neighborhood clinic?

F.3.1.2 Certification

1) What requirements make it necessary to have subcategories of program categories when counting participation? How do you count participation?
2) Which USDA risk factors are automatically assigned to participants? What are the rules and data used for automatic assignment?
3) Are you tracking any risk factors that are not part of the USDA set and if so, what are they?
4) How do you account for and reconcile duplicate participant records?
5) How do you prevent dual participation? What other programs are considered to be dual participant programs? How is dual participation implemented in your system? Is it being used? If not, why not?
6) For what length of time do you retain participant records in the system before they are archived? What are your rules for doing this?
7) How do you protect the confidentiality of participant information and how are these implemented in your automated WIC information system and in your office environment?
8) After a participant is certified to receive benefits, what information can and cannot be changed? Does your system fully support or enforce that?
9) Some WIC agencies apparently check income within a certification period to determine continued eligibility. If you do this, how do you account for this?
10) How are the start and end dates of a certification period defined for each program category by your system? Do all those definitions match USDA program rules? For a participant transferring in from another WIC state agency, can you / how do you fit in their certification start and end dates in your system?
11) What special circumstances are there for certifying participants that your system will not accommodate? How do you work around this? For example, consider a circumstance where a baby is born in a hospital and is immediately given formula from the WIC program for an interim period and then later must be "fully" certified to receive additional formula.
12) Can you have more than one participant record open at the same time? How many? Can they be from different family/household groups? What happens if another user tries to access one of these open records?
13) What criteria do you use for grouping participants into families? How do you accommodate changes in child custody? When transferring participants from one clinic to another, within your agency, what flexibility are you given in transferring participants in a family/household group? How is this accomplished considering the situations, for example, of either transferring individual, partial, and whole family/household group from a clinic into either an existing or a new family/household group in the new/receiving clinic?
14) Does your system support the Farmer's Market Nutrition Program?

F.3.1.3 Medical

1) Does your current system have automated growth charts? Are they useful? Can you suggest any improvements on how this function is currently implemented?
2) What medical and other data, if any, is currently recorded but not actually used?
3) What medical and other data is needed but not currently recorded? Do you keep any manual or paper or other kinds of non-computer records of data to assist you in the delivery of WIC services?

F.3.1.4 Nutrition Assessment and Food Package Definition

1) Does your current system have an automated dietary assessment capability? Has it improved the certification process? What do you like about it? What improvements could be made? Is there anything that should be removed?
2) To what extent can you customize food packages to individual participant needs? When customized, can your system still fully track the cost of individual foods?
3) Can you change prescriptions during a benefit period? Is that easy or difficult?
4) Is there any loss of management controls or other tracking of foods and participants when changes are made?
5) How does your system adjust for food quantities and types in a food package when changes are made to the food package?

   Is this beneficial or bothersome?

   How should it be better done, if applicable?
6) Does the system allow for approval and issuance of special formulas?

F.3.1.5 Food Instrument Issuance

1) How do you correct erroneous issuance? Is that easy or difficult?
2) How many ways (list/describe) can you issue food instruments? Are there other ways that should be available to better deliver and manage the delivery of services?
3) Does your system have both batch and individual food instrument issuance?
4) Does your system support coordinated issuance of food instruments for a family/household group? If family/household members have a different number of benefit periods available can the system handle that automatically without problems or errors? What occurs?

   How are any problems or errors corrected?
5) Does your system support issuance for multiple benefit periods at the same time?

F.3.1.6 Vendor Relations

1) Do clinic personnel participate in visits to and/or monitoring or training of vendors?
2) If so, is there any information recorded from those visits? How?

F.3.1.7 Reports

1) Are additional statistical reports needed beyond those currently provided by your system? Do you currently use an 'ad hoc' capability? Which one(s)?
2) Do you currently use your participant health data to perform longitudinal trend analysis? Do you anticipate doing so in the future?
3) Of the reports you have in you system, which ones do you use?

F.3.1.8 Interface to Other Clinic Services

1) What immunization data does your current system maintain? Do you have an automated interface with the State Immunization Registry? Is it helpful?
2) With what health programs would you like to exchange/share health data?
3) With what health systems do you currently have or project to have interfaces in the near future?
4) To what extent could this outside sharing include outside access to WIC databases or to specialized 'subset' WIC databases? Would those agencies be allowed to update, create, or delete data in the WIC databases? If not, how would data be used to update, create, or delete data in the WIC databases? If not, how is the sharing envisioned?
5) Does your system interface with the Food Stamp Program or Medicaid systems at certification to validate adjunctive eligibility?

F.3.2 TRAINING

1) Is the training currently provided with the application adequate for all users of the application? (New personnel, experienced personnel moving to new positions or locations, changes to the application, refresher training, etc.)
2) How might the training be improved? Are any important items missing? Is too much time spent on any trivial items?
3) Are there any application functions that might be added, changed, or deleted simply to lessen the need for training without impairing the delivery and management of services?
4) Will there be training centers throughout the state, or will training be given only at one location (i.e., will training be centralized or decentralized)? What are the cost issues (room space, travel) associated with either approach?
5) How many trainees can be trained in one session? How long will training sessions last? How many training sessions will be required?
6) Would training be conducted by clinic/local agency or by function? Will training be comprehensive for all trainees or component based for a

particular job function? Will all users be trained, or will a train-the-trainer approach be used?

7) How many training sessions will have to be held for local agency staff? For State staff?

8) Will training require clinics to close or adjust schedules? How long would clinics have to operate under "training" conditions? How much notice will be provided to clinics if closures are required?

9) What type of training format will be employed (e.g., CD ROM, hands on, classroom)? Will trainees share terminals? Will handouts or reference materials be distributed at training? What are the training equipment requirements?

10) How will trainee special needs be met? Will there be a basic clinic staff skills assessment to determine computer competency? What language or education barriers exist?

11) Who conducts training? Were trainers on-site during system implementation?

12) Were clinics encouraged to schedule fewer participants during the first week after implementation? How did this impact participant services?

F.3.3 SYSTEM ADMINISTRATION

1) How do you define 'field level security' (i.e., who can update/read specific participant data elements)? How would it be useful? What difficulties or problems might it impose? How could those difficulties be mitigated or avoided? What benefits might be obtained from field level as opposed to other types of security? How will those benefits improve the delivery and management of services?

2) What method(s) does your current system use to control user access? Are there 'holes' or gaps that allow unauthorized access? What means (if any) have you seen used to circumvent the current means of access control? Why is this being done?

3) Are your system's current methods of security and/or access control limiting the effectiveness of the system? Are they interfering with the delivery and management of services? If so, how could access control be improved without circumventing necessary limits on access to the system and the data?

4) What automated back-up/end-of-day procedures are available? Are they useful? What other back-up procedures do you use?

5) What activities do local system administrators in the clinics perform? Are the system administration functions of your system easy to use? Has it been easy to train clinic staff to perform system administration functions?

6) Does your clinic use unique local tables? How is the data used? What are the advantages/disadvantages of having the local table capability? Are there any such functions or specific data you feel should be available? How would you use that data?

7) How do you continue delivering and managing services while your system is unavailable? ("Crashes", power failures, natural disasters, etc.) How do you make the transition back to normal operations?

8) If you converted data from a legacy system into your automated WIC information system, what data did you convert? What data was converted that was not useful? What data did you convert that was particularly troublesome (not straight forward) to convert? What data was not converted that should have been converted?

9) How do you account for inventory of hardware, application version, database version, issuance of serialized material (for example, food instruments before and after issuance), non-serialized or bulk material? Do you believe this capability should belong in an automated WIC information system?

F.3.4 HELP DESK FUNCTIONS

1) Is there the ability to receive calls and keep record (ticketing and tracking system)?

2) Can support staff troubleshoot and diagnose a variety of problems including hardware, software, and pertinent application problems?

3) Can support staff solve problems or escalate them to the next level of support with their ticketing/tracking system?

4) Can support staff monitor the ticket through the satisfactory resolution of problem to the customer?

5) Can the technical support unit provide information regarding the downtime for local clinics and agencies? Will these reports provide information that the entire program will find useful, such as reason for downtime/ outages, causation of problems, chronic issues and customer satisfaction?

F.3.5 TECHNOLOGY

These subparagraphs are intended to solicit comments about how advances in technology might enable or be used for additional requirements. Look at items contained in the Glossary for more information as you read this.

F.3.5.1 General

1) If you had a digital signature capability, what forms would you consider submitting electronically? What are the benefits of this capability? What are the disadvantages? Is image capture sufficient or is identification capability necessary for this technology to work properly?

2) If kiosks were available, what functions would be advantageous to make available to your clientele? What data would have to be available to the kiosk user to make that/those functions effective? What are the risks or potential problems of placing such a function in a kiosk environment?

3) In what ways could you use advanced technologies (e.g., smart cards, magnetic stripe cards, hybrid cards, touch screens, "palm-top computers" or PDA's, Internet, e-mail, wireless technology, etc) if cost were not an issue?

What rules would you have for protecting the confidentiality of participant information?

4) What other advanced technologies do you see having an impact on the delivery and management of WIC services and/or the integration of WIC services with other public health and/or social services? How is/will this impact occur? What problems and benefits do you see arising from these technologies? How can those benefits be improved and the problems mitigated or avoided?

F.3.5.2 Certification

1) Do you have any interest in using a card capable of carrying demographic data (i.e., integrated circuit chip or "smart" card) to populate the applicant eligibility screen? What benefits would such a process bring? What problems might such a process entail?

2) Could your clinic use a Web-Based Data Collection/pre-eligibility screening process to enable participants to perform an initial self-screening to determine their categorical and income eligibility? Would it reduce in-take staff time significantly? If such a process was available through kiosks placed at community centers, clinics, or retailers, do you think your clientele would use it? What barriers would you anticipate in implementing such an approach? What are the risks of erroneous self-exclusion by such potential participants? Is that a problem?

3) If you had an integrated circuit chip (i.e., " smart") card platform, would you use the card to help track participant appointments? How would you use it?

4) Could you use emails for notifications if kiosks were provided in central locations for participants to use? Would that be more or less cost-effective than mailed reminders? Would it actually eliminate the need for mailed reminders? Would it fill a gap in the current reminder process? How? Could you use Web-based re-certification appointment scheduling if kiosks were available? What problems might that entail, for example, would the participants understand the types of appointments and their own needs well enough to schedule the right kind of appointment at the right time and in the right sequence? Does the system database have (or could it have) enough information to control that process? If so, when, if ever, would intervention by human WIC service providers be necessary? How would 'web-based' be an improvement, if any, over other network-based services?

5) Would there be any interest in using biometrics upon entry certification to check for dual participation later? How would this work? (Note, for example, that a mother's biometrics have little if any bearing on whether or not a child is a dual participant.) How might biometrics be used? (For participants or for computer users. Are there other uses?)

F.3.5.3 Nutrition Education and Health Surveillance

1) Although some states have investigated the use of kiosks, they have not been adopted by many states. Why do you think kiosks have not been more widely adopted?

2) How could kiosk-based nutrition education class scheduling help improve participant attendance? Would participants be able to effectively and accurately use such a system? What problems would occur? How could those problems be overcome?

3) Could kiosk-based nutrition education delivery be used for at least part of the nutrition education requirements of the program? How? What problems? How to solve the problems?

4) Would card-based reminders on grocery store receipts improve participation?

5) Would card-based attendance tracking at nutrition education classes be practical or desirable? How should this work for maximum effectiveness? (Not just within the limits of your current computer and/or manual systems. How would it best work?)

6) Would it be practical to use kiosks to display videotape nutrition education programs? Would it be practical to use kiosks to provide access to a Web-based self-help dietary monitoring information entry program? How would this work? Bear in mind the limits and advantages of kiosk-based delivery.

7) Does the system provide for automatic referral to other programs? If so, does it flag for follow-up to see if they visited those programs?

F.3.5.4 Food Instrument Production

1) In what ways do you issue food instruments? How is this accounted for in your system?

2) What circumstances make it difficult to issue food instruments and how do you handle them?

3) What rules do you have for voiding, unvoiding, replacing, etc. food instruments?

F.3.6 SYSTEM SATISFACTION

1) What are the strengths of your current WIC information system?

2) What are the weaknesses of your current WIC information system?

3) Is your current system easy to use? Please give examples of what is easy to use and how it is easy.

4) What parts of your current system are difficult to use? Please give examples of what is difficult to use and how/why it is difficult. How could it be made easier to use and still provide the necessary functionality?

5) Do you think that your system is fast enough to move participants through rapidly?

6) Did you receive sufficient training for the use of your current WIC information system?

7) Does your current system have any special features that enhance service delivery or efficiency of operations? Please identify each and describe how that enhancement occurs.

8) What state policies/regulations have significantly influenced the design of your current system and how?

9) How could your current system be improved? What would your priorities be for system enhancements?

10) Have you learned any lessons from implementing your new system that would be valuable to others?

11) Are there any "best practices" that have evolved from the implementation of your new system that you would recommend to others?

F.3.7 MISCELLANEOUS QUESTIONS

1) What recommendations do you have for standardizing WIC processes across state agencies

2) What recommendations do you have for streamlining WIC processes?

3) What recommendations do you have for improving the quality of WIC service delivery?

F.4 STATE WIC AGENCY INTERVIEWS

Please take a similar approach here as was done for local WIC agency interviews.

F.4.1 WIC STAFF

F.4.1.1 Food Management

1) Is there currently a Table of WIC Approved Food Items in your system? How could the Table of WIC Approved Food Items be more efficiently handled?
2) Is there maximum pricing in your state? How is it implemented? How is it verified? Are there multiple maximums (for example, based on type of vendor) or just one maximum?
3) How is food instrument cost calculated in your state (i.e., both actual cost of the FI and the maximum value)? Can you track individual foods or only groups of foods (as in fixed-content vouchers)?
4) Are there any state-specific regulations about food instrument production that affected the design of your system? Please describe.
5) Do any of your clinics use a process other than on-demand food checks? What benefits/problems have resulted from "on-demand" food checks?
6) How does your food instrument stock inventory function operate? Is the food instrument stock inventory function at the local clinic level reconciled against any central food instrument stock inventory? Who is responsible for maintaining the food instrument inventory?

F.4.1.2 Food Instrument Payment and Reconciliation

1) How is vendor payment/reconciliation performed in your state?
2) How does your state deal with maximum pricing (i.e., "pay and chase" or other)?
3) Has your current system speeded up or improved vendor payment? How?
4) Has your current system speeded up or improved the reconciliation process? How? Could the current system based reconciliation process be improved? If so, how?
5) Are there any state specific procedural variations in your reconciliation process that affected the design of your system? If so, how?
6) How could payment and reconciliation be improved? What impact would those improvements have on the delivery and management of services?
7) What changes would your vendors like to see? Do you agree that those changes would be helpful?
8) What do you do with food instruments that have been redeemed?
9) How do you account for voided, unvoided, replaced, etc. food instruments through the reconciliation process? What difficulties have you encountered

and why? How did you resolve them? How is your banking agent (if you have one) involved in this area and what difficulties have been encountered? How were they resolved?

F.4.1.3 Caseload Management

1) How are caseload allocations configured in your agency? Do you use historical pricing data or vendor proposed pricing to calculate cost of food instruments for the purpose of caseload projections?
2) What data elements are used by your state in the calculation of caseload allocations?
3) Has the use of automated caseload management processing resulted in more efficient usage of staff resources? Are staffing assignments made differently now than in the past?
4) What type of statistical/trend analysis would be useful to you in refining the caseload allocations?
5) Is your state using the system generated caseload allocations or manually entered caseloads?
6) Do you currently have a "what if" analysis capability for caseload management? What additional statistical analysis/data warehousing capabilities would be useful to you in this area?
7) Do you currently use your system to allocate staff resources at the local clinic level? Do you have any need to do so?
8) What are your program categories for participants and what rules do you use for counting participation in each of these categories? How do you count participation?
9) Does your system have an automatic method for counting participation?

F.4.1.4 Vendor Management

1) Would it be viable in your state to use a Web-based application to do centralized vendor applications and authorization? How would this differ from any other network-based delivery?
2) What criteria are used in your state to authorize vendors?
3) How frequently are vendor food prices updated in your state? How is this done? How could this process be improved?
4) Are there any additional vendor history reports/statistical analysis needed?
5) What methods do you use to identify high-risk vendors in your state? Does the system provide for risk assessment of vendors to determine potential fraud?
6) What additional vendor analysis reports do you need?
7) What percentage of vendors also operate in other states? Do you have many "border" vendors that service participants from neighboring states? Do you think a common vendor identification number would be helpful? If so, can

you recommend any approaches for achieving a common vendor identification number across states? What characteristics are needed in such a standard WIC vendor number? What barriers, if any, exist in performing cross-state vendor compliance monitoring? Are you willing and able to adopt some other WIC Program's numbering system to achieve such a common identification system?

8) Does the same identification number in both the WIC and Food Stamp programs identify vendors? If not, is it possible to construct such a common identifier and a common electronic transaction format for sharing both WIC and FS violations and other information? Have you ever considered the use of the Food Stamp Number? If so, why did you decide not to implement it?

9) Would it be practical to use Email for vendor communications? What are the issues, positive and negative, of that approach?

F.4.1.5 Operations Management

1) How could data warehousing/ad hoc reporting capabilities be used to improve operations management?

2) Are there any additional organizations that should be added to the list of referral agencies in the FRED?

3) Has your state investigated sharing a multi-application card platform, Web-based common in-take process or other application/data sharing approaches with other health/benefit delivery programs? If so, what programs and what types of cooperation?

F.4.1.6 Financial Management

1) How is budget data currently transmitted to the WIC State agency?

2) Could the Internet or other network-based technologies be used to simplify the transmission of local financial data to the state? How? Which technologies?

3) What do you currently have in place that provides an automated interface with the state's accounting system? Do you currently have in place an automated interface with the banking system used for retailer payment? What additional interfaces are needed with financial systems?

4) How does your system provide "what if" analysis capability for determining the impact of manufacturer rebates or for projecting food instrument costs? How do you use this capability for other financial analysis?

5) Are any additional financial management reports needed? If so, what reports?

F.4.1.7 System Satisfaction

1) What are the strengths of your current WIC information system?

2) What are the weaknesses of your current WIC information system?

3) Do you use centralized or distributed processing?

4) What parts of your current system are difficult to use? Please give examples of what is difficult to use and how and why it is difficult. How could it be made easier to use and still provide the necessary functionality?

5) What parts of your current system are easy to use? Please give examples of what and how various functions are easy to use.

6) Did you receive sufficient training for the use of your current WIC information system?

7) Does your current system have any special features that enhance service delivery or efficiency of operations?

8) Are there any state policies/regulations that have significantly influenced the design of your current system?

9) How could your current system be improved? If you received a grant to improve your existing WIC information system, what would your priorities be for system enhancements?

10) Are you planning any enhancements of your current system in the next year, five years, and ten years? If so, what enhancements?

11) When you replaced your older WIC information system, did you consider other states' systems? If so, which systems? Why did you choose or decide against those systems?

12) Have you learned any lessons from implementing your new system that would be valuable to other states?

13) Are there any "best practices" that have evolved from the implementation of your new system that you would recommend to other states?

F.4.1.8 System Administration

1) Does the FRED currently contain any unnecessary data tables? Are any additional data tables needed in the FRED?

2) Have you found automated back-up/end-of-day procedures valuable?

3) Do you have the infrastructure in place to enable web-based applications in your state? (For example, does every location in your state have access to an ISP? Is that access local or long distance or other variable-rate implementations? What is the reliability of that access? Is that level of reliability acceptable for delivering and managing the delivery of WIC services?)

4) What activities do local system administrators in the clinics perform? Are the system administration functions of your system easy to use? Has it been straightforward to train clinic staff to perform system administration functions? If possible, please provide examples.

5) Do the local clinics have the ability to enter unique local tables or data? If so, how many local clinics use the system's capability to enter unique local tables? What are the advantages/disadvantages of having the local table capability?

6) How do you account for inventory of hardware, application version, database version, issuance of serialized material (for example, food instruments before and after issuance), non-serialized or bulk material? Do you believe this capability should belong in an automated WIC information system?

F.4.1.9 Miscellaneous Questions

1) Are you aware of any functionality currently in the FRED not being used? Please list those, if any. Is there any functionality that you think needs to be added to the FRED? If so, how will that added functionality improve the delivery and management of services across the various WIC programs?
2) Is there any data specified in the FRED that is not currently being used? Is there any additional data that needs to be added to the FRED?
3) If you had a digital signature capability, what forms would you consider submitting electronically?
4) If kiosks were available, what functions would be advantageous to make available to your clientele?
5) In what ways could you use emerging technologies (e.g., smart cards, magnetic stripe cards, hybrid cards, Internet, e-mail, automated biometrics, wireless technology, etc) if cost were not an issue?
6) What other emerging technologies do you see having or about to have an impact on the delivery and management of WIC services? What will that impact be (positives and/or negatives)? Ignoring costs, how could we best mitigate problems and take advantage of benefits of those emerging technologies?
7) What recommendations do you have for standardizing WIC processes across states?
8) What recommendations do you have for streamlining WIC processes?
9) What recommendations do you have for improving the quality of WIC service delivery?
10) What "best practices", if any, do you have in any aspect of your WIC program operations that you would like to recommend to other states?

F.4.2 TECHNICAL STAFF

F.4.2.1 System Administration

1) Is the performance level of your current system adequate? Is the response time of your current system adequate? Has the performance of your system influenced user satisfaction in any way? If so, how? What have you done to improve on any problems? What have you done to extend and otherwise take advantage of any benefits?
2) What has been your system's unscheduled down time rate? How do you track it? How much of an impact has downtime had on user operations? Has

unscheduled down time influenced user satisfaction in any way? How and to what extent?

3) Briefly describe the technical architecture of your system.

4) What database package does your system use? What operating system does your system use? What hardware technical specifications are needed to run your current application in the clinic?

5) Do local clinics use a WAN, LANs, standalone PCs, or a combination to run your application?

6) Do you currently use any data warehousing tools? Would you consider such tools in the near future? How would you use such tools to improve the delivery and management of WIC services?

7) Do you currently use wireless communications? If so, has wireless transmission been successful? Have wireless networks been used only in satellite sites or do all sites use wireless communications? What benefits and/or problems has the wireless communications approach provided to your clinic operations?

8) With what other systems does your current system interface? Describe how the interface is accomplished. How could that be improved?

9) What are the technical strengths/weaknesses of your system? Does your system present any significant technical constraints to meeting user requirements? If any, please describe those constraints and any actions that have been/will be taken to alleviate the problems. How have you been able to capitalize on the strengths?

10) What improvements, if any, are needed in your current technical environment? Why? What will those improvements accomplish/how will they improve the delivery and management of WIC services? Will those changes and/or the resulting improvements be visible to or hidden from users of the system?

11) What activities are performed by the central data processing facility? Did you decide to use an outsourcing approach to providing central data processing? Why? What benefits and/or problems has this caused? What would you do differently next time?

12) Describe the security features (i.e., how access control is accomplished, whether transactions are encrypted, etc.) of your current system. Are these security features adequate to protect confidential data? Have you had any increase in security incidents with the use of wireless communication? Do you use public networks to transmit any type of data? If so, do you use encryption to protect these transmissions? What improvements, if any, would you like to see in the security implementation?

13) Does your system currently have field level security? How do you define 'field level security'? How would it be useful? What difficulties or problems might it impose? How could those difficulties be mitigated or avoided? What benefits might be obtained from field level as opposed to other types of security? How will those benefits improve the delivery and management of services?

14) What method does your current system use to control user access? Are there 'holes' or gaps that allow unauthorized access? What means (if any) have you seen used to circumvent the current means of access control? Why is this being done?

15) Are your systems current methods of security and/or access control limiting the effectiveness of the system? Are they interfering with the delivery and management of services? If so, how could that interference be removed without impairing necessary limits on access to the system and the data?

16) Does the FRED currently contain any unnecessary data tables? Are any additional data tables needed in the FRED?

17) Have you found automated back-up/end-of-day procedures valuable?

18) What activities do local system administrators in the clinics perform? Are the system administration functions of your system easy to use? Has it been straightforward to train clinic staff to perform system administration functions?

19) Do many local clinics use the system's capability to enter unique local tables? What are they and what do they contain? What are the advantages/disadvantages of having the local table capability? Are there any such functions or specific data you feel should be available? How would you use that data?

20) How do you continue delivering and managing services while your system is unavailable? ("Crashes", power failures, natural disasters, etc.) How do you make the transition back to normal operations?

F.4.2.2 Miscellaneous Questions

1) What functionality required by the current FRED is not used in your system? Is there any functionality that you think needs to be added?

2) What data specified in the current FRED is not used? What additional data needs to be added to the FRED?

3) What "best practices," if any, do you have in any aspect of your WIC information system/technical operations that you would like to recommend to other states?

4) Is your system flexible to change?

5) Could your system be adapted to a "paperless" system? What potential problems would you foresee?

6) Is statewide data available to all clinics and local agencies?

F.4.3 TECHNOLOGY

1) In what ways could you use advanced technologies (e.g., EBT/ESD, smart cards, Internet, e-mail, wireless technology, etc) if cost were not an issue? How would you use emerging technology to streamline/improve WIC processes?

F.5 SYSTEM TECHNOLOGY TRANSFER QUESTIONNAIRE

The intent of this questionnaire is to assist states in evaluating systems for transfer. It assesses the issues or conditions that need to be considered when an existing application software solution is a candidate for being acquired for (and subsequently transferred into) a new environment. While this questionnaire provides a general set of guidelines to consider, it must be customized to meet the specific needs and environments of the individual states.

1. FUNCTIONALITY (MUST BE DETERMINED FOR EACH APPLICATION) – THE REQUIREMENTS TRACEABILITY MATRIX CAN BE CUSTOMIZED WITH STATE SPECIFIC REQUIREMENTS AND USED TO DETERMINE THE EXTENT TO WHICH A SYSTEM UNDER CONSIDERATION MEETS THE FUNCTIONAL REQUIREMENTS OF THE INDIVIDUAL STATE.

2. AVAILABILITY
   a) How easily can the system be acquired?
      - ◊ Who owns the rights to the software? (applications and operating)
      - ◊ Is it in the public domain?
      - ◊ Is it commercially available? If so, from whom? At what cost? (ROM estimate)
      - ◊ Are there any licensing limitations?
      - ◊ Can upgrading requirements be tacked on?
      - ◊ Can source code be acquired?
      - ◊ Can documentation be acquired?
      - ◊ Can implementation assistance be acquired? If so, from who? At what cost?
      - ◊ Can conversion assistance be acquired? If so, from whom? At what cost?
      - ◊ Can maintenance assistance be acquired? If so, from whom? At what cost?
      - ◊ How long will it take to acquire?
      - ◊ Is most hardware/software widely available? (UNIX, OS/2, DB2)
      - ◊ Is any special/unusual/state-of-the-art equipment/software needed?
      - ◊ What version of the software is being used?
   b) How complete is the system?
      - ◊ Are all functions fully operational? How many are operational?
      - ◊ What functions are operational?
      - ◊ How long will it take to make the functions operational (for a similar population size)?
      - ◊ What functions remain to be developed?
      - ◊ When was development begun?
      - ◊ What are the current development plans?
      - ◊ What problems are anticipated or have occurred?
      - ◊ What will the cost be for a complete implementation?

- ◊ What will be the time needed for a complete implementation?

c) How can the system be learned?
- ◊ Available documentation
- ◊ Internal specifications documentation
- ◊ Commented source code
- ◊ External specifications documentation
- ◊ Users guides/manuals
- ◊ Demos
- ◊ Training
- ◊ Training material
- ◊ Trainers
- ◊ Database schema
- ◊ Data dictionary
- ◊ Runtime documentation

d) Has the system been transferred to other environments already?
- ◊ When was the system transferred?
- ◊ Where was the system transferred?
- ◊ How much of system was transferred?
- ◊ How long did it take to perform the transfer?
- ◊ How much did the transfer cost?
- ◊ Who did the transfer?
- ◊ Are work plans available?
- ◊ Is expertise available?
- ◊ What problems were encountered/resolved?

e) Are third party vendors involved?
- ◊ Does the software conform to industry standards?
- ◊ How strong is the vendor in the industry? What is the vendor's longevity?

3. ADAPTABILITY

a) How was adaptability built in?
- ◊ Is the system CASE designed?
- ◊ What is required to implement the system?

b) How does existing change cycle process work?
- ◊ Is a change cycle procedure available?
- ◊ Who makes the changes? (contractor? customer?)
- ◊ How long does it take to make a change?

c) How modular is the system?
- ◊ What is the overall architecture?
- ◊ How many executable modules are there? (rough estimate only)
- ◊ Are tables used for edits?
- ◊ Are tables used for parametric data to specify environment?

d) Data dictionary
- ◊ Is the data dictionary hard-linked to the database design?

4. PROGRAM COMPATIBILITY

a) What is the program environment?
- ◊ What functions does the program perform?

- ◊ Who owns/coordinates the system?
- ◊ Is a steering committee needed?
- ◊ What are the user interfaces?
- ◊ What is the population size of those served?
- ◊ What is the transaction volume?

b) What people are involved?
- ◊ For whom is the program designed?
- ◊ Who enters the data?
- ◊ How many are available for data entry?
- ◊ How many participants are served?

c) What reports/information are needed?
- ◊ What is the frequency of the reports?
- ◊ What level of detail is needed by function?

d) What is the original environment?
- ◊ What is the relationship among control points?
- ◊ What is the participant population?
- ◊ What is the number of sites?
- ◊ Does the state have direct or in-direct contact with the participant base?
- ◊ Are there other related systems in the state?
- ◊ Are there any other office automation applications?
- ◊ What are the limitations?

e) What is the conceptual model for the original user?
- ◊ Distributed data versus central file?
- ◊ Centralized versus de-centralized administrative staff?
- ◊ Are there system administrators?

f) How closely does the conceptual model for the original user of this application match with the conceptual model for the new environment? Does it meet State/Federal requirements?

5. APPLICATION PROCESSING COMPATIBILITY

a) How compatible is the system to the current processing environments?
- ◊ What processor (platform) does it run in?
- ◊ What application software language(s) is it written in?
- ◊ What operating software does it run under?
- ◊ What software support packages are linked?

b) How compatible is the system to the current maintenance environment?
- ◊ What systems development methodology was used in development?
- ◊ What application software language(s) is it written in? 4GL?
- ◊ What operating software does it run under?
- ◊ What systems development methodology was used in development?
- ◊ Which CASE methodology/products were used?
- ◊ What database design was used?
- ◊ What DBMS is used?
- ◊ What tools are required to maintain the system?
- ◊ How are they implemented?

c) How compatible is the system to the current development environment?
- ◊ What systems development methodology was used in development?

- ◊ Was a CASE methodology/product used? Which one(s)?
- ◊ What database design was used?
- ◊ What database management system (DBMS) is used?
- ◊ Is it relational?

6. PORTABILITY

   a) Conformance to standard architecture
      - ◊ Application Software
      - ◊ Common User Access (CUA)
      - ◊ Environment
      - ◊ Common Programming Interface (CPI)
      - ◊ Common Communications Support (CCS)

7. PERFORMANCE AND COST CONSIDERATIONS

   a) How is user acceptance?
      - ◊ Are there any problems?
      - ◊ Are there any user issues?

   b) Can the system demonstrate success/benefits/savings?

   c) How are Response times?
      - ◊ How is the system under peak load/conflicts?
      - ◊ What is the paper turnaround time?

   d) What has/will the systems cost? (staff time and money)
      - ◊ What is the cost of development?
      - ◊ What is the cost of conversion?
      - ◊ What is the cost of training?
      - ◊ What is the cost of support?
      - ◊ What is the cost of operations?
      - ◊ What is the cost of maintenance?
      - ◊ What is the cost of system administration?

   e) How is security and confidentiality treated?

   f) Does the system/design lend itself to being piloted?

8. ARE THERE ANY OTHER RISKS TO BE CONSIDERED?